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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,506	06/06/2001	Matthew D. Giere	10006598-1	9309

7590 07/11/2003  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/786,506

Applicant(s)

ROSENFELDT ET AL.

Examiner

LAM S NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The indicated allowability of claim 45 is withdrawn in view of the newly discovered reference(s) to Steinfield et al. (US 5984464). The finality of previous action is withdrawn and rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 45 recites the limitation "said plurality of ink feed openings" in the last paragraph. Claims 40-41 recites the limitation "nozzle subgroup" in "the ink flow path for each nozzle subgroup". There is insufficient antecedent basis for these limitations in the claim.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 40-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinfield et al. (US 5984464). With assumption that ink feed openings are formed to provide respective ink paths through the substrate and thin film layer and nozzles are grouped into subgroups, the following rejection is made.

Steinfield et al. disclose an ink jet printhead comprising:

a substrate (FIG. 13, element 28);

a thin film layer disposed on a surface of the substrate (FIG. 13, element 80), the

thin film layer defining a plurality of firing resistors (FIG. 13, element 96);

a barrier/orifice structure (FIG. 13, element 30) disposed on the thin film layer, the structure defining an array of nozzles arranged in a plurality of nozzles columns (FIG. 14) and an array of firing chambers (FIG. 13: the space around element 96) in correspondence with correspondence with the array of nozzles (FIG. 13, element 92);

the firing resistors being arranged in correspondence with the firing chambers (FIG. 13);

the barrier/orifice structure further comprising a continuous rib portion (FIG. 13, element 18) extending between adjacent first and second ones of the plurality of nozzle columns to fluidically separate the first and the second ones of the nozzle columns (FIG. 13: two corresponding of nozzles columns respect to nozzles 92 and 94 is separately fluidically as illustrated by elements 88); and

wherein said plurality of ink feed openings (FIG. 13: the spaces between elements 54 and 86 where the ink 88 is fed to the ink chamber) are arranged in a first group on a first side of the rib portion (FIG. 13, one side of element 18) for feeding nozzles of the first one of the plurality of columns, and a second group on a second side of the rib portion for feeding nozzles of the second one of the plurality of columns (FIG. 13, the other side of element 18).

**Referring to claim 40:** wherein the ink flow path for each nozzle subgroup includes an opening or set of openings through the thin film layer and through the substrate, and wherein each nozzle of a nozzle subgroup is supplied with ink via said opening or set of openings (FIG. 13-14: since each nozzle 92 is supplied with ink via opening, each nozzle group includes at least an opening).

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**Referring to claims 41-42:** further comprising printhead electronics that provide firing pulses to the drop generators such that no two nozzles of each nozzle subgroup are fired sequentially or simultaneously (FIG. 16: the firing sequence, TABLE 1: if the first firing is the nozzle 1, the next firing is the nozzle 7).

**Referring to claim 43:** the barrier/orifice structure includes a polymer layer (column 5, line 40-41).

**Referring to claim 44:** the nozzles of each nozzle column have a pitch of 600 nozzles per inch (See Abstract).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (703)308-4896. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN

July 3, 2003



Stephen D. Meier  
Primary Examiner